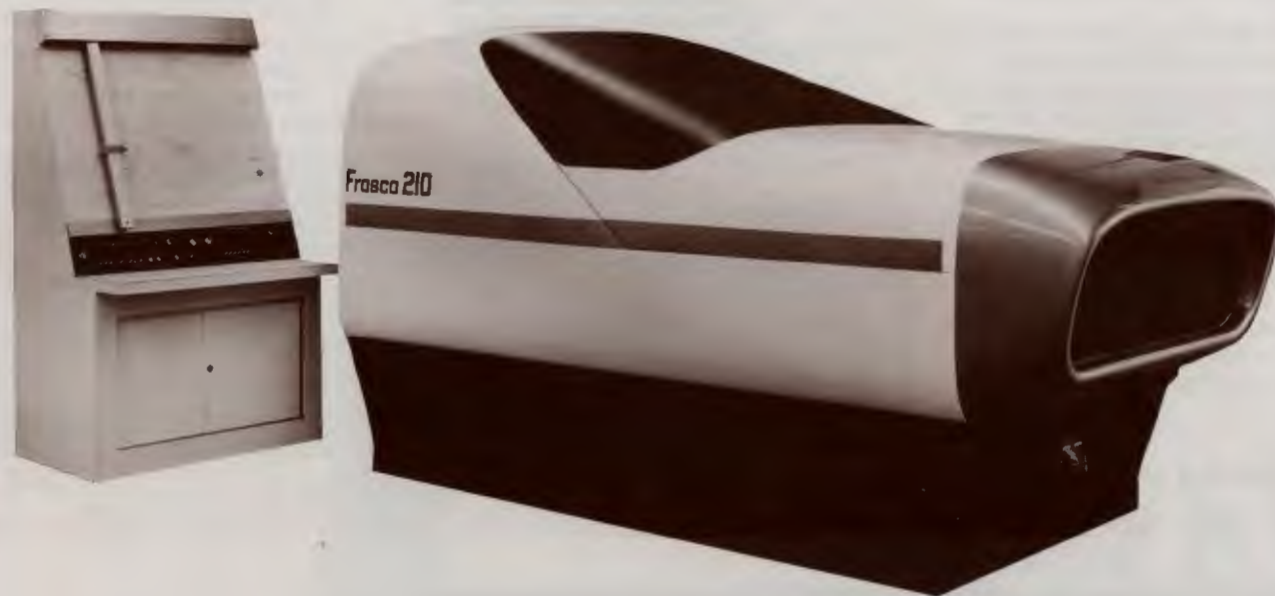


The FRASCA 210/T

**Our general purpose twin turboprop flight simulator . . .
the ultimate in efficiency and cost effectiveness.**



Flight simulators. There's no longer a choice.

Things have changed. Today you simply cannot afford to use line aircraft for training missions.

Look at the cost of new aircraft. Add to that the cost of direct and indirect operating expenses that are skyrocketing as never before.

But you still have to train new pilots while you keep your senior pilots current. Then there's emergency procedures training that you could never fly in your line aircraft.

Take a moment to read through this brochure. It describes Frasca's 210 general purpose turboprop flight simulator.

Frasca flight simulators are the choice of corporations, governments, and flight schools in more than 40 countries, and for good reason. If you're considering incorporating a flight simulator into your pilot training program, let us know. We'll show you how to get the most simulator for your money.

Frasca. The best choice.

The 210/T Flight Simulator

The 210

The 210 Model is Frasca's top-of-the-line commercial grade twin simulator. To date, 210's have been built for most popular commercial aircraft from light piston twins, through turboprops to pure jets.

Specific vs Generic

For the ultimate in "transfer of training," your Frasca 210 can be built to individual specifications, accurately duplicating cockpit environment, equipment, and performance of your actual line aircraft. A valuable consideration when you consider the extreme need today for **total** pilot proficiency.

Or, if your training program covers several different kinds of aircraft, choose a general purpose version of the Frasca 210. Our generic simulators are built to duplicate performance of a general type of aircraft. That means your generic Frasca 210 can be used for general training no matter what you're flying. Our generic model simulators are also very affordable. For comparable quality and learning value, nobody can offer you as much simulator for the money.

A Valuable Training Tool

With a Frasca 210 you can train new pilots while keeping your senior pilots sharp. And you won't have to schedule training around aircraft availabilities. Your Frasca 210 can be used any time, day or night, leaving your line aircraft free to do what they were meant to do . . . fly productively.

But more than that, your Frasca 210 will also save you a great deal of money. While direct operating costs for a typical turboprop may run between \$200 and \$300 per hour, the direct expense of a Frasca 210 is less than \$5.

If you are involved in even a modest pilot training program, a Frasca 210 can pay for itself several times over in its useful lifetime. In some cases, Frasca 210's pay for themselves in as little as one year.

Flight Computer Performance Capabilities

A unique combination of accuracy and efficiency

The Frasca 210 is one of our New Generation flight simulators featuring the only flight computer system we know of that can efficiently and accurately duplicate complex flight equations.

The Frasca New Generation Flight Computer is based on state-of-the-art, high speed, high resolution, hybrid digital/analog computers. It's the best of both worlds, using the power of digital technology with the "real time" qualities of analog to provide the ultimate in accurate flight simulation.

Amazingly realistic engine performance simulation

As an example of just how realistically our flight computer performs, consider engine performance simulation . . . completely accurate from start-up to shut-down.

- Both OAT and altitude variations are factored in to compute engine performance.
- The propeller dynamics section computes the propeller's angle of attack. (This allows windmilling and feathering as well as simulation of zero thrust and reversing.
- Select "Low Oil Pressure" and the computer also produces high oil temperature and a proportional loss in power and torque. Soon, ITT and fuel flow both increase. If the engine is not shut down, an engine fire is simulated automatically, just as it would occur in a real turbine engine.
- Our system allows the instructor to demonstrate hot starts and hung starts as well as windmill starts.
- Generator load affects ITT, Fuel Flow, and Power.
- Ice vanes affect ITT, Fuel Flow, and Power.
- Generator assisted starts, and APU assisted starts result in higher N1 speeds and lower initial temperatures during start.
- Releasing the starter too early may cause hung starts or hot starts.

Before you seriously consider buying any other brand of flight simulator, have your pilots "fly" a Frasca. Compare Frasca to the competition and your pilots will choose Frasca.

Easier to maintain

While our flight computer system delivers more of the capability you need in a flight simulator, it is simple in design. That means easier maintenance and lower operating costs.

Designed for change

Your Frasca 210 can be programmed to perform like almost any aircraft sold today . . . or tomorrow. As your fleet changes, so can your Frasca, an important point when you consider that Frasca flight simulators have a reputation for long life in the field. Remember that Frasca gives you more than a simulator . . . we give you a training system.

Instrument Panel

The instrument panel of the Frasca 210 can accurately reproduce the cockpit environment of any commercial grade twin you specify.

We can usually configure your 210 with the same avionics, panels, and features used in your actual line aircraft. That's just one more reason why transfer of training is unmatched in a Frasca 210.

Specialty avionics, such as Inertial Navigation Systems or LORAN for intercontinental range commercial and business jets can be ordered on your 210. You can even specify custom tuners, such as a Gable Heads, RNAV or VNAV systems.

The following is a description of our general purpose version 210 Turboprop.

Pilot's Panel

- 8 Day Clock
- Artificial Horizon
- Altimeter (3 needle sensitive)
- Turn & Slip Indicator
- Air Speed Indicator
- Directional Gyro
- Vertical Speed Indicator
- RMI
- NAV 1 & NAV 2 CDI
- Digital DME
- Marker Lights

Pilot Sub Panel

- Avionics Master Switch
- Inverter Selector Switch
- Battery Switch
- Generator 1 Switch
- Generator 2 Switch
- Left & Right Ignition/Start Switches
- Left & Right Engine Auto Ignition Switches
- Left & Right Prop Governor Test Switches
- Left & Right Ice Vane Switches
- Left & Right Pitot Heat Switches
- Autofeather Arm/Test Switch

The following ten switches are for external lighting and ice protection and are installed for procedural training purposes only.

- Landing Lights
- Taxi Lights
- Ice Lights
- Navigation Lights
- Beacon and Strobe Lights
- Windshield Anti-ice
- Prop De-ice
- Left & Right Fuel Vent De-ice
- De-ice Cycle (Single/Manual)
- Stall Warning

Landing Gear Controls

- Landing Gear Selector
- Landing Gear Circuit Breaker
- Landing Gear Intransit Lights (1 red)
- Landing Gear Down Indicator Lights (3 green)

Center Panel

- Left & Right ITT Gauges
- Left & Right Torque Gauges
- Left & Right Prop RPM Gauges
- Left & Right Gas Producer RPM Gauges
- Left & Right Fuel Flow Gauges
- Left & Right Oil Pressure Gauges
- Left & Right Oil Temperature Gauges

Avionics Panel

- Audio Control Panel
- Dual COMM Transceivers
- Dual NAV Receivers
- ADF Receiver
- Altitude Encoding Transponder

Annunciator Panel Warning Lights

(Tied to Pilot & Co-Pilot Master Warning & Caution Lights)

- Left & Right Fire Warning
- Left & Right Low Fuel Pressure
- Left & Right DC Generator Failure-Caution
- Left & Right Ignition On-Advisory
- Left & Right Ice Vane Extension-Caution
- Battery Charge-Advisory
- Instrument Inverter Failure-Warning
- Fuel Crossfeed Indicator-Advisory
- Reverse Not Ready Indicator-Caution

(Illumination of any red warning light will cause the Master Warning Light to flash. Likewise, any yellow caution light will cause the Master Caution Light to flash.)

Fire Protection System

(A fire in either engine can be simulated by using the instructor's Ignite/Reset switch.)

- Fire Detector/Extinguisher Test Switch
 - Left & Right Fire Warning/Extinguisher Switches
- (The warning switch incorporates three lights: Fire, OK, and Discharged.)

Center Console

- Left & Right Power Levers with Reversers
- Left & Right Prop Pitch Controls with Feathering
- Left & Right Condition Levers
- Elevator Trim Indicator
- Aileron Trim Control
- Rudder Trim Control
- Flap Selector (Up, Approach, & Down)

Co-Pilot's Panel

- 8 Day Clock
- Artificial Horizon
- Altimeter (3 needle sensitive)
- Turn & Slip Indicator
- Air Speed Indicator
- Directional Gyro
- Marker Lights

Co-Pilot Sub Panel

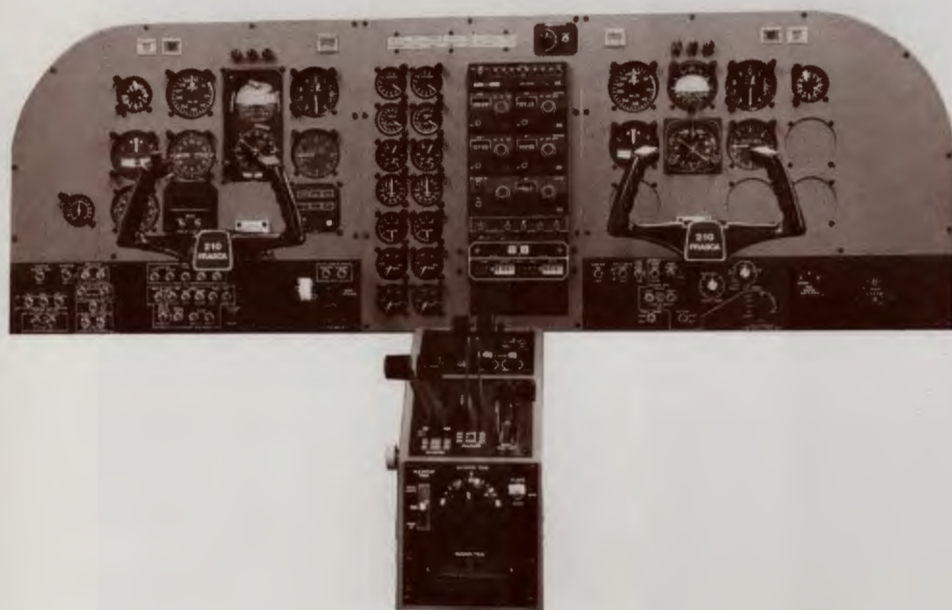
- Caution Light On/Off Switch
- Cabin Signs On/Off Switch
- Stall Warning Test Switch

Environmental Controls

- Cabin Temperature Control
- Cabin Heat/Cool Mode Selector
- Manual Temperature Control
- Vent Blower Switch
- Left & Right Bleed Air Valve Switches
- Radiant Heat On/Off Switch
- Gyro Suction Gauge
- Hobbs Meter

Fuel Management Panel

- Left & Right Fuel Quantity Gauges
- Left & Right Standby Fuel Pump Switches
- Left & Right Fuel Shut-off Valve Switches (with safety guards)
- Left & Right Auxiliary Transfer Override Switches
- Crossfeed Selector Switch
- Fuel Quantity Gauge Selector Switch
- Miscellaneous Circuit Breakers



FRASCA

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Instructor's Console

The Instructors Console is a three-panel design featuring a Radio Station Control Panel, a Systems Panel, and a Plotter Control Panel.

The Radio Station Control Panel allows the instructor to duplicate radio navigation areas for any part of the world. The instructor can change station type, frequency, and location at any time – even during an instructional period.

The instructor can use the Systems Panel to generate navigational failures, aircraft systems failures, engine related failures, or manipulations of environmental factors such as outside air temperature and barometric pressure.

Audio Controls are located on the Systems Panel and can be used to simulate pilot/controller communications.

Radio Station Control Panel

(located at left rear of fuselage)

- Position null meter and selector
- Eight controls for station type
- Eight pairs of controls for radio station position
- Eight radio station frequency selectors
- Two ILS selectors
- Two outer marker selectors
- Two middle marker range selectors
- Two sets of glide slope angle controls
- Field elevation control
- Transponder ident indicator

Failures provided

- Marker beacon failure
- Glide slope failure
- NAV 1 & 2 failure
- ADF failure
- DME failure



Systems Panel

Flight systems failures and controls provided

- Outside air temperature variations
- Center of gravity variations
- Gross weight variations
- Barometric pressure variations
- Altitude control, automatic or manual
- Individual freeze control for pitch, bank, altitude, and heading
- Total system freeze control

Left and right engine failures and controls provided:

- Selector for normal start, ignition failure, hung start, and hot start
- Oil pressure variations
- Oil temperature variations
- Fuel quantity variations (fill and drain)
- Fuel pump failure
- Interturbine temperature variations
- Prop governor failure
- Engine power loss, and flame out
- Engine ignition and reset

Electrical systems failures and controls provided

- External power normal/available
- Battery condition normal/low
- Left and right generator failure
- Primary and secondary inverter failure
- Left and right electrical load variations

Instruments systems failures and controls provided

- Gyro failure
- Pilot and/or Co-pilot ADI failure
- Pilot and/or Co-pilot heading failure
- Pilot and/or Co-pilot turn failure
- Pitot ice

Miscellaneous systems failures and controls provided

- Landing gear failure
- Flaps failure
- Trim failure

Audio Controls

- Volume Control
- Speaker On/Off
- Push to Talk Button
- Microphone Jack
- Headphone Jack
- COMM 1/COMM 2 Selector

Ground Path Recorder

- X-Y plotter with the site setting and instructor's controls. Scale: 1" = 2.5 nm.
- Plotting area 97.5 x 135 nm.
- Wind Velocity Control (up to 80 knots)
- Wind Direction Control (variable 360°)

Optional Equipment

Since each Frasca 210 can be custom-built to your specifications, optional equipment and features are usually no problem. When you're ready, one of our project directors can spec out your 210 and advise you of special options available.

Power Requirements

110V, 50 or 60HZ, draws less than 10 KVA (normally less than a desk-top copier.) Additional information, prices, and specific quotes available on request

